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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/964,191	09/26/2001	Isao Kakuhari	29288.2700	1298

20322 7590 08/10/2006

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EXAMINER	
SELLERS, DANIEL R	
ART UNIT	**PAPER NUMBER**
2615	

DATE MAILED: 08/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/964,191	KAKUHARI ET AL.	
	Examiner	Art Unit	
	Daniel R. Sellers	2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 May 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) *19-23* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18 and 24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 September 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments regarding the 35 U.S.C. 102(e) rejections of claims 1-17 and the 35 U.S.C. 103(a) rejection of claim 18 have been fully considered but they are not persuasive.

2. Regarding **claim 1**, Kitamura teaches a correction section (Col. 6, line 64 – Col. 7, line 11). The correction section, or the parametric filter block (70), corrects the frequency content of the audio signal, wherein the equalization template used in the filter block is chosen to correct audio signals categorized by genre or type and for personal preference (Col. 2, lines 1-11 and Col. 3, lines 8-11). Kitamura also teaches that the acoustic signal matches the image signal, or that the video and audio or synchronized (Col. 3, lines 49-64, Col. 4, lines 13-21, and Fig. 1, units 14, 20, 22, 24, and 32). Kitamura also teaches that delay information is used to impart that the surround speakers, i.e. the rear speakers, in a multi-speaker setup are further apart, and reverb implies a wider listening space (Col. 1, lines 23-39). The effect of reverberation is to widen the sound stage to the left and right without affecting the center channel information, or the mutual information in the left and right channel. Kitamura teaches conventional DVD decoding devices, wherein synchronization information is used so that the acoustic signal matches the image signal, e.g. the dialogue matches the video and the effects match the implied space (Col. 6, lines 4-34).

3. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies

(i.e., "displays a short range view or a distant view of a musical instrument or a singer, the acoustic signal AS can be corrected using the acoustical signal correction data... which reproduce the distance between the sound source to the viewer/listener", p. 28, lines 11-15) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). The claim limitation "so that the acoustic signal matches the image signal being reproduced together" is much broader than the teaching found on page 28, lines 11-15. The claim limitation includes these teachings, but is not limited to it. In fact, page 28, lines 1-8 teaches that a "sound field of the site" can be recreated, and this feature is taught by Kitamura as discussed above and in the following rejections under 35 USC 102.

4. Regarding **claims 2-17**, see the above argument. Claims 2-17 stand rejected by Kitamura under 35 U.S.C. 102(e).

5. Regarding **claim 18**, see the preceding argument with respect to claim 1. Claim 18 stands rejected by the combination of Kitamura and Saito under 35 U.S.C. 103(a).

Claim Rejections - 35 USC § 102

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. **Claims 1-17 and 24** are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Kitamura, U.S. Patent No. 6,704,421.

8. Regarding **claim 1**, see Kitamura

A signal processing apparatus for processing an acoustic signal reproduced together with an image signal, the signal processing apparatus comprising:

a memory for storing a plurality of filter coefficients for correcting the acoustic signal; (Col. 4, lines 35-53, Col. 6, lines 1-4, and Col. 6, line 66 – Col. 7, line 7)

a filter coefficient selection section for receiving a correction command, from outside the signal processing apparatus, for specifying a correction method for the acoustic signal and selecting at least one of the plurality of filter coefficients stored in the memory based on the correction command; (Col. 2, lines 56-60 and Col. 4, lines 22-27) *and*

a correction section for correcting the acoustic signal using the at least one filter coefficient selected by the filter coefficient selection section so that the acoustic signal matches the image signal being reproduced together. (Fig. 3, unit 70 and Col. 4, lines 18-21)

Kitamura teaches a signal processing apparatus with all the above features, wherein the audio signal is synchronized with the video signal and reproduced together.

9. Regarding **claim 2**, the further limitation of claim 1, see Kitamura

... wherein the correction command is input to the signal processing apparatus by receiving of a broadcast signal or a communication signal. (Col. 3, lines 34-39)

Kitamura teaches a multichannel equalization control system with these features.

10. Regarding **claim 3**, the further limitation of claim 1, see the preceding argument with respect to claim 2. Kitamura teaches a device, wherein the correction command is recorded on a recording medium, such as a hard disk drive (Col. 3, lines 28-34).

11. Regarding **claim 4**, the further limitation of claim 1, see Kitamura

... wherein the memory is arranged so as to receive at least one filter coefficient for correcting the acoustic signal from outside the signal processing apparatus, and to add the at least one filter coefficient received to the plurality of filter coefficients stored in the memory or to replace at least one of the plurality of filter coefficients stored in the memory with the at least one filter coefficient received. (Col. 9, lines 45-52).

Kitamura teaches a method of receiving filter coefficients from outside the signal processing apparatus, and these coefficients replace any previous coefficients used prior.

12. Regarding **claim 5**, the further limitation of claim 4, see the preceding argument with respect to claim 4. Kitamura teaches a system where the coefficients outside the signal processing apparatus are obtained from reproduction of the recording medium.

13. Regarding **claim 6**, the further limitation of claim 5, see Kitamura. Kitamura teaches an audio signal processing device that has video processing capabilities (Fig. 1, units 20, 22, and 24 and Col. 3, lines 49-51). It is inherent that the speed into the buffer is higher than the speed out for the purpose of uninterrupted playback and synchronization. It is inherent that the filter coefficient(s) are stored in the memory while the image and video are being output from the buffer for the purpose of filtering the audio, otherwise it would defeat the purpose of using a filter structure. Furthermore, it is inherent that the time period required for the buffer to be output is equal to a time period for the coefficient(s) to be in memory so that the filter, with the coefficient(s), processes the entirety of the data signal.

14. Regarding **claim 7**, the further limitation of claim 1, see Kitamura

... wherein:
the at least one filter coefficient selected includes at least one filter coefficient representing a transfer function showing an acoustic characteristic of a direct sound from a sound source to a viewer/listener, (Col. 4, lines 40-46) *and*
the correction section includes a transfer function correction circuit for correcting a transfer function of the acoustic signal in accordance with the at least one filter coefficient representing the transfer function.(Fig. 1, units 16 and 24, and Fig. 3, units 50 and 70).

Kitamura teaches parametric equalization parameters, which are coefficients representing a transfer function with an acoustic characteristic of direct sound from a source to a listener.

15. Regarding **claim 8**, the further limitation of claim 1, see the preceding argument with respect to claim 7. Kitamura teaches the reflection structure as ceiling and floor

level data, reverberation control data, and delay control data. It is inherent in the structure of filters that multiplication and addition is performed, and in view of figure 3 and column 6, lines 35-37, it is inherent that the reflection component output is added to the filtered signal output in parallel or series.

16. Regarding **claim 9**, the further limitation of claim 1, see the preceding argument with respect to claim 7. Kitamura teaches the use of floor and ceiling parameters, delay control data, and reverberation control data. Kitamura also teaches that the reflection characteristic is added after filtering (Fig. 3).

17. Regarding **claim 10**, the further limitation of claim 1, see the preceding argument with respect to claim 2. Kitamura teaches templates, wherein a user is allowed to edit a template, and the templates are automatically chosen according to a correction command (Col. 4, lines 22-27).

18. Regarding **claim 11**, the further limitation of claim 8, see the preceding argument with respect to claim 7. Kitamura teaches reverberation (reverb) control data, wherein the reverb mixes delayed and filtered version of the input signal with itself (Col. 6, lines 24-28). The different delays correspond to different distances, and inherently the coefficients, in a filter such as this, correspond to the different delays, or distances.

19. Regarding **claim 12**, the further limitation of claim 9, see the preceding argument with respect to claim 11. Kitamura teaches at least two different coefficients corresponding to different distances.

20. Regarding **claim 13**, the further limitation of claim 8, see Kitamura

... wherein the at least one filter coefficient representing the reflection structure includes a third filter coefficient representing a reflection structure showing an acoustic characteristic of a reflection reaching

the viewer/listener from a direction in a predetermined range. (Col. 6, lines 24-28 and Fig. 2, unit 48)

Kitamura teaches a third coefficient representing a reflection from a direction in a predetermined range.

21. Regarding **claim 14**, the further limitation of claim 9, see the preceding argument with respect to claim 13. Kitamura teaches a plurality of reflection structures, wherein there is a third coefficient representing a reflection from a direction in a predetermined range.

22. Regarding **claim 15**, the further limitation of claim 13, see Kitamura

... wherein the predetermined range is defined by a first straight line connecting the sound source and a center of a head of the viewer/listener and a second straight line extending from the center of the head of the viewer/listener at an angle of 15 degrees or less from the first straight line. (Col. 6, lines 41-44)

Kitamura teaches a signal processing device with all the features of claim 13. Kitamura does teach a specific location or direction of reflected sound, wherein the angle can be zero.

23. Regarding **claim 16**, the further limitation of claim 14, see the preceding argument with respect to claim 15. Kitamura teaches an angle of less than 15 degrees.

24. Regarding **claim 17**, the further limitation of claim 1, see Kitamura

... wherein the acoustic signal includes multiple-channel acoustic signals, and the filter coefficient selection section selects a filter coefficient corresponding to each of the multiple-channel acoustic signals. (Col. 2, lines 60-64 and Fig. 3)

Kitamura teaches a multichannel system.

25. Regarding **claim 24**, the further limitation of claim 1, see the preceding argument with respect to claims 1 and 2. Kitamura teaches a correction section (70) that corrects

the acoustic signal using the at least one filter coefficients (50) output from memory (Col. 4, lines 35-53, Col. 6, lines 1-4, Col. 6, line 45 - Col. 7, line 7, and Fig. 4a and 4b).

Claim Rejections - 35 USC § 103

26. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

27. **Claim 18** is rejected under 35 U.S.C. 103(a) as being unpatentable over Kitamura as applied to claim 1 above, and further in view of Saito et al., U.S. Patent No. 3,766,547 (hereinafter Saito).

28. Regarding **claim 18**, the further limitation of claim 1, see Saito

... further comprising a display section for displaying a distance between a sound source and a viewer/listener. (Col. 1, lines 55-64, and Col. 2, lines 6-23).

Kitamura teaches all the features of claim 1, but does not teach a display device wherein a distance between a sound source and a user is displayed. Saito teaches a display device with this feature in a multichannel environment. It would have been obvious for one of ordinary skill in the art to combine the teachings of Kitamura and Saito for the purpose of visual feedback with respect to balance and fade controls, which are well known in the art.

Conclusion

29. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Inanaga et al., USPN 5,796,843 - teaches matching audio and video (abstract) and

Dicker et al., USPN 6,798,889 (previously cited) - teaches a display matching the speaker location to perceived output, i.e. correcting the placement of speakers (Fig. 7-12).

30. Technology Center 2600 has undergone restructuring as of March 19, 2006. Any **further communication** regarding this application should **indicate the new Art Unit 2615** (old art unit 2644).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel R. Sellers whose telephone number is 571-272-7528. The examiner can normally be reached on Monday to Friday, 9am to 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on (571)272-7564. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DRS

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SUPERVISORY PATENT EXAMINER